

DISCRETE APPLIED MATHEMATICS
VOLUME 37/38, 15 JULY 1992
SPECIAL DOUBLE VOLUME
INTERCONNECTION NETWORKS

Abstracted/Index in: ACM Computing Reviews, Cambridge Scientific Abstracts, Current Contents: Physical Chemical & Earth Sciences, Engineering Index/Compendex, INSPEC Information Services, International Abstracts in Operations Research, Mathematical Reviews, Science Citation Index, Statistical Theory and Method Abstracts, Zentralblatt für Mathematik.

CONTENTS

Foreword	1
<i>J. Allwright</i>	
New (Δ, D) graphs discovered by heuristic search	3
<i>N. Alon</i>	
Transmitting in the n -dimensional cube	9
<i>K.S. Bagga, L.W. Beineke, W.D. Goddard, M.J. Lipman and R.E. Pippert</i>	
A survey of integrity	13
<i>R. Bar-Yehuda and T. Etzion</i>	
Connections between two cycles – a new design of dense processor interconnection networks	29
<i>P. Camarda and M. Gerla</i>	
Design and analysis of fault-tolerant multibus interconnection networks	45
<i>L. Campbell</i>	
Dense group networks	65
<i>F.R.K. Chung</i>	
Graphs with small diameter after edge deletion	73
<i>G. Cooperman and L. Finkelstein</i>	
New methods for using Cayley graphs in interconnection networks	95
<i>S.K. Das, J. Ghosh and N. Deo</i>	
Stirling networks: a versatile combinatorial topology for multiprocessor systems	119
<i>W. Fernandez de la Vega and Y. Manoussakis</i>	
The forwarding index of communication networks with given connectivity	147

<i>C. Delorme</i>	
Examples of products giving large graphs with given degree and diameter	157
<i>D.-Z. Du, D.F. Hsu and G.W. Peck</i>	
Connectivity of consecutive- d digraphs	169
<i>R.J. Faudree, R.J. Gould and L.M. Lesniak</i>	
Generalized degrees and Menger path systems	179
<i>H. Fredricksen</i>	
A new look at the de Bruijn graph	193
<i>A. Ghafoor</i>	
Connectivity, persistence and fault diagnosis of interconnection networks based on O_k and $2O_k$ graphs	205
<i>J. Gómez, M.A. Fiol and J.L.A. Yebra</i>	
Graphs on alphabets as models for large interconnection networks	227
<i>J.M. Gordon</i>	
Analysis of minimal path routing schemes in the presence of faults	245
<i>N. Graham and F. Harary</i>	
Changing and unchanging the diameter of a hypercube	265
<i>Y.O. Hamidoune, A.S. Llado and O. Serra</i>	
The connectivity of hierarchical Cayley digraphs	275
<i>K. Heinrich, K. Kim and V.K. Prasanna Kumar</i>	
Perfect latin squares	281
<i>M.C. Heydemann, J.C. Meyer, J. Opatrny and D. Sotteau</i>	
Forwarding indices of k -connected graphs	287
<i>M.C. Heydemann, J. Opatrny and D. Sotteau</i>	
Broadcasting and spanning trees in de Bruijn and Kautz networks	297
<i>H.D.L. Hollmann and J.H. van Lint Jr</i>	
Nonblocking self-routing switching networks	319
<i>X.D. Hu and F.K. Hwang</i>	
An improved upper bound for the subarray partial concentrators	341
<i>L.K. Jørgensen</i>	
Diameters of cubic graphs	347
<i>W.M. Kantor</i>	
Some large trivalent graphs having small diameters	353
<i>C.P. Kruskal and M. Snir</i>	
Cost-performance tradeoffs for interconnection networks	359

<i>E. Lazard</i>	
Broadcasting in DMA-bound bounded degree graphs	387
<i>A.L. Liestman and J.G. Peters</i>	
Minimum broadcast digraphs	401
<i>U.M. Maurer</i>	
Asymptotically-tight bounds on the number of cycles in generalized de Bruijn-Good graphs	421
<i>N. Pippenger</i>	
The asymptotic optimality of spider-web networks	437
<i>J. Plesník</i>	
Heuristics for the Steiner problem in graphs	451
<i>A.L. Rosenberg</i>	
Product-shuffle networks: toward reconciling shuffles and butterflies	465
<i>D.R. Shier, E.J. Valvo and R.E. Jamison</i>	
Generating the states of a binary stochastic system	489
<i>P. Solé, A. Ghafoor and S.A. Sheikh</i>	
The covering radius of Hadamard codes in odd graphs	501
<i>T. Soneoka</i>	
Super edge-connectivity of dense digraphs and graphs	511
<i>J.L. Villar</i>	
The underlying graph of a line digraph	525
<i>K. Wada and K. Kawaguchi</i>	
Efficient fault-tolerant fixed routings on $(k+1)$ -connected digraphs	539
<i>G. Zémor and G.D. Cohen</i>	
Application of coding theory to interconnection networks	553
<i>G.W. Zimmerman and A.-H. Esfahanian</i>	
Chordal rings as fault-tolerant loops	563
<i>J.-C. Bermond, C. Delorme and J.J. Quisquater</i>	
Table of large (Δ, D) -graphs	575
AUTHOR INDEX	579

